

JP 406051683 A

FEB 1994

5

(54) MANUFACTURE OF PARTIAL HOLOGRAM

(11) 6-51683 (A) (43) 25.2.1994 (19) JP

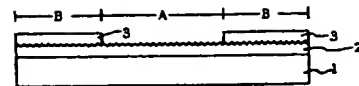
(21) Appl. No. 4-223626 (22) 31.7.1992

(71) TOOTSUYA K.K. (72) NOBUKATSU ASANO

(51) Int. Cl.⁵ G03H1/18, G03H1/02//B44F1/02

PURPOSE: To optionally and easily introduce a hologram image having a stereographic appearance in a design and a pattern obtained by normal printing, or normal coating by erasing the uneven part of a hologram layer by printing, or coating.

CONSTITUTION: After forming a transparent, or translucent hologram layer 2 on a substrate 1, a printing layer, or coating layer 3 is partially formed on the surface of the hologram layer 2. In a figure, a wavy surface shows the uneven part of the hologram layer, and A shows the part capable of viewing the hologram, and B shows the part unable of viewing the hologram. Only the uneven part of the surface of the hologram layer 2 on which the printing, or coating layer 3 is partially applied is erased by the printing, or coating layer 3, so that the partial hologram capable of viewing a hologram image only on the part where the printing layer, or the coating layer 3 is not formed is obtained. The aforesaid printing and coating can be applied on a fine and complicated planar shape and also on a large area part.



(19) 日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号

特開平6-51683

(43) 公開日 平成6年(1994)2月25日

(51) Int.Cl. ⁵	識別記号	庁内整理番号	F I	技術表示箇所
G 0 3 H	1/18	8106-2K		
	1/02	8106-2K		
// B 4 4 F	1/02	9134-3K		

審査請求 有 請求項の数 5 (全 5 頁)

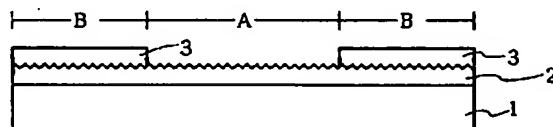
(21) 出願番号	特願平4-223626	(71) 出願人	000134305 株式会社トーツヤ 東京都豊島区東池袋1丁目37番1号
(22) 出願日	平成4年(1992)7月31日	(72) 発明者	浅野 宣勝 埼玉県与野市上落合763の2
		(74) 代理人	弁理士 福田 武通 (外2名)

(54) 【発明の名称】 部分ホログラムの製造方法

(57) 【要約】

【目的】 通常の印刷若しくはコーティングにより得られるデザインや模様の中に立体的美観を呈するホログラム像を任意に且つ容易に導入する。

【構成】 基材1上に透明または半透明のホログラム層2を形成させた後、該ホログラム層2の表面に部分的に印刷若しくはコーティングを施すことにより、ホログラム層2の表面の凹凸を印刷層若しくはコーティング層3で部分的に消失させる。



明の金属蒸着層6を形成させたものをそれぞれ実施例5～8とした。尚、実施例7では金属蒸着層6は半透明に或いは部分的に設けるものであるが、部分的に設けた場合には図示したA及びBの部分は正確ではない。

【0031】以上本発明の実施例を示したが、本発明は前記した実施例に限定されるものではない。例えば前記実施例5～8では金属蒸着層をホログラム層に接するようには設けたが、この金属蒸着層は実施例5では基材の裏面側に、実施例6、8では支持フィルム4の裏面側に、実施例7では支持フィルム4の表面側に設けるようにしても良い。このように、特許請求の範囲に記載した構成を要しない限りどのようなようにしても実施することができる。

【0032】

【発明の効果】以上説明したように本発明は、ホログラム層の凹凸を印刷若しくはコーティング、或いは接着剤層と貼合させることにより消失させるので、その印刷層若しくはコーティング層、或いは接着剤層が設けられたい箇所だけにホログラム像が見えるような部分ホログラムを作製することができる。

【0033】また、具体的な印刷方法或いはコーティング方法によって多少の差はあるものの、微細且つ複雑な平面形状にも或いは大面積部分にも容易にその処理を施すことができ、しかも加工精度が高く且つ量産性も高いので、所望のいかなるデザインのものにも対応することができ、安定な品質で、視覚的趣きの高いものを作製することができる。

【0034】したがって、本発明の部分ホログラムの製造方法は、通常の印刷若しくはコーティングにより得られるデザインや模様の中に立体的美観を呈するホログラム像を任意に且つ容易に導入することができる。

【図面の簡単な説明】

【図1】本発明の第1実施例の一実施例の構成を示す断面図である。

【図2】本発明の第2実施例の一実施例の構成を示す断面図である。

【図3】本発明の第3実施例の一実施例の構成を示す断面図である。

【図4】本発明の第4実施例の一実施例の構成を示す断面図である。

【図5】本発明の第5実施例の一実施例の構成を示す断面図である。

【図6】本発明の第5実施例の他の実施例の構成を示す断面図である。

【図7】本発明の第5実施例の他の実施例の構成を示す断面図である。

【図8】本発明の第5実施例の他の実施例の構成を示す断面図である。

【符号の説明】

1 基材

2 透明または半透明のホログラム層

いてホログラム層の凹凸が形成される面の他面側に半透明または不透明の金属蒸着層を形成する部分ホログラムの製造方法（以下、第5発明という。）をも提案する。

【0022】この方法は、前記第1～4発明における基材の片面側或いは支持フィルム4の片面側に半透明または不透明になるように金属蒸着したものを使用して、前述の手法により部分ホログラムを作製すれば良い。このように金属蒸着層を形成することにより、反射性を付与しても良いし、前記第3発明に金属蒸着層を設ける場合にはホログラム層より金属蒸着層の方が上方に位置することとなるので、半透明に金属蒸着層を設けるか、或いは所定箇所に部分的に金属蒸着層を設けることによりその箇所のホログラム像を隠蔽するようにしても良い。

【0023】このように本発明の第1～5発明は、種々の印刷或いはコーティングによる図柄、絵柄の中にホログラムを容易に導入するものであり、形成させる基材の形状やデザインに応じてその態様を適宜に選定して実施すれば良い。

【0024】

【実施例】以下に本発明を図面の実施例に基づいて詳細に説明する。

【0025】実施例1（第1発明）
図1に示すように基材1上に透明または半透明のホログラム層2を形成させた後、該ホログラム層2の表面に部分的に印刷層若しくはコーティング層3を形成した。

【0026】尚、図示実施例において、波状面はホログラム層の凹凸を示し、ホログラムが見える部分をA、見えない部分をBと示した（以下の実施例についても同様）。

【0027】実施例2（第2発明）
図2に示すように、支持フィルム4上に透明または半透明のホログラム層2を形成させると共に裏面に接着剤層5を形成させ、基材1上に上記支持フィルム4（2+4）を貼合させた後、上記ホログラム層2の表面に部分的に印刷層若しくはコーティング層3を形成させた。

【0028】実施例3（第3発明）
図3に示すように、支持フィルム4の裏面に透明または半透明のホログラム層2を形成させ、空部aを有する基材1上に接着剤層5を形成させ、該基材1（5+1）上に上記支持フィルム（4+2）を貼合させた。

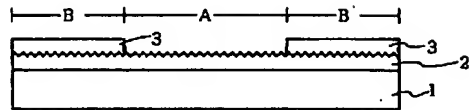
【0029】実施例4（第4発明）
図4に示すように、支持フィルム4上に透明または半透明のホログラム層2を形成させ、空部aを有する基材1上に接着剤層5を形成させ、該基材1（5+1）上に上記支持フィルム（2+4）を貼合させた後、上記ホログラム層2の表面に部分的に印刷層若しくはコーティング層3を形成させた。

【0030】実施例5～8（第5発明）

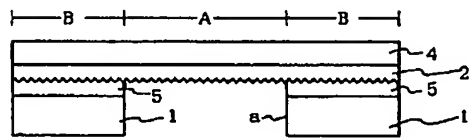
図5～8に示すように、前記実施例1～4のホログラム層2の凹凸が形成される面の他面側に半透明または不透明

- 3 印刷層若しくはコーティング層
4 支持フィルム

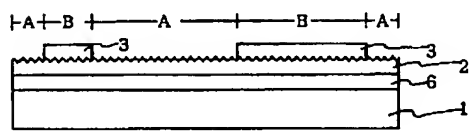
【図1】



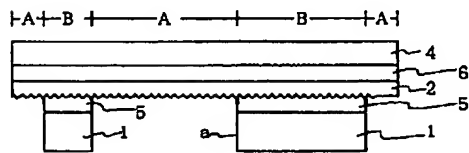
【図3】



【図5】

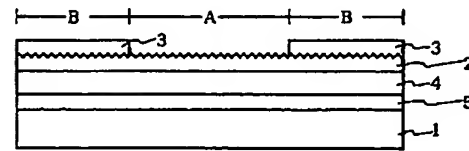


【図7】

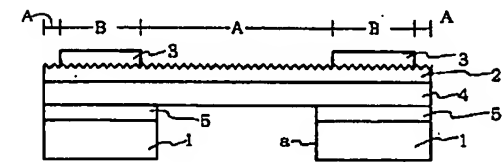


- 5 接着剤層
6 半透明または不透明の金属蒸着層

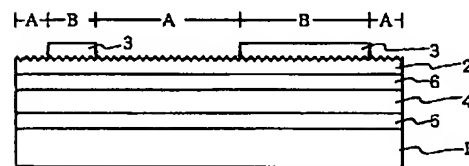
【図2】



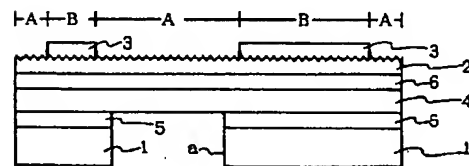
【図4】



【図6】



【図8】



* NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the manufacture method of the partial hologram which can introduce arbitrarily and easily the hologram image which presents a three-dimensional fine sight into the design obtained by the usual printing or coating, or a pattern.

[0002]

[Description of the Prior Art] As everyone knows, a hologram applies two sorts of laser light called body light and a reference beam to an object at coincidence, uses the interference fringe produced by gap of the location of light at this time, and records this on a special film, a plastic sheet, etc. Impossible three-dimensional pattern and three-dimensional image can be expressed with this hologram to the former.

[0003] However, since the hologram foil and hologram film which are marketed were expensive, it was used by only one spot or the specific part into printed matter or a coating object in many cases rather than it was used alone. But using a hologram complexly with other printing designs etc. in this way was able to present the visual effect that the design and interval were very high.

[0004] And as a method of generally introducing a hologram into printed matter or a coating object, the binder layer and the heat-sealing agent layer were beforehand formed in the rear face of the hologram foil or a hologram film, and attachment or the method of carrying out hot printing was taken by the printing side or coating side of a base material in the above-mentioned hologram foil or a hologram film.

[0005]

[Problem(s) to be Solved by the Invention] However, as described above, a binder layer or a heat-sealing agent layer must be beforehand formed in the rear face of the hologram foil or a hologram film, and it is necessary to make it label material or the foil material for an imprint, and by this method, this label material or the foil material for an imprint must be further extracted and processed into a desired configuration. In addition, about this label material or foil material for an imprint extracted and processed, if there is not attachment or foil push in a predetermined part, it will not become. Thus, by the above mentioned conventional method, there was a problem that workability was very bad and a manufacturing cost was applied.

[0006] Moreover, the configuration also had a limit. That is, in introducing a hologram image only into a detailed portion, the above-mentioned extracts, processing (activity) becomes very difficult, and workability gets worse further also in a subsequent attachment activity or a subsequent foil push activity. Or precision gets worse. On the other hand, since the **** machine which is equivalent to the large area in the foil material for an imprint is needed also about the thing of a large area, it becomes impossible substantially.

[0007]

[Means for Solving the Problem] This invention is what was proposed in view of the above, and after making transparence or a translucent hologram layer form on a base material, it is related with a manufacture method (henceforth the 1st invention) of a partial hologram characterized by making it vanish irregularity of the surface of a hologram layer partially in a printing layer or a coating layer by performing printing or coating to the surface of this hologram layer partially.

[0008] With a base material used for the 1st invention of the above, paper, a metal, a plastic, etc. can be used [what kind of quality-of-the-material thing or], and it does not limit especially in a thick mold-goods configuration according to the shape of a sheet about the configuration, either.

[0009] Said 1st invention forms transparence or a translucent hologram layer on the above-mentioned base material first. A version board which could use what kind of method well-known about this formation method, for example, engraved hologram irregularity may be stuck on a roll side, transparent **** is imprinted in a thermoplastics layer which was made to mix a pigment etc. suitably and was made translucent, and further, if needed, it is translucent and it may adopt transparence or how a refractive index forms coating layers, such as a high metal vacuum evaporatio layer. Moreover, commercial hologram foil and a commercial hologram film are used as an imprint version. After sticking **** transparent on a support film by pressure with a thing in which an ultraviolet-rays (or electron ray) hardenability resin (liquid) layer which was made to mix a pigment etc. and was made translucent was formed, irradiating ultraviolet rays (or electron ray) and stiffening them, Commercial hologram foil and a hologram film are made to exfoliate, further, if needed, it may be translucent and a refractive index may adopt transparence or a method (= Japanese Patent Application No. No. 73218 [four to] which this invention person proposed) of forming coating layers, such as a high metal vacuum evaporatio layer.

[0010] And the surface of the above-mentioned transparence or a translucent hologram layer is printed or coated partially (in predetermined part designed beforehand). You may make it print or coat with what kind of method of coating which used a roll coater or a gravure coating machine, a flexo coating machine, etc., such as well-known screen-stencil, offset printing, gravure, flexographic printing, and letterpress printing, a spray coat, a dipping coat, a spin coat, etc. about a method of this printing or coating.

[0011] Thus, the 1st invention is very simple for that processing, and a product obtained by this 1st invention serves as a partial hologram whose hologram image is visible only to a part where that printing layer or a coating layer is not prepared in it since a printing layer or a coating layer given partially vanishes irregularity of that portion on the surface of a hologram layer.

[0012] and -- although printing or coating is formed in a predetermined part designed beforehand as mentioned above in this 1st invention -- the shape of a detailed and complicated plan type -- or since that processing can be easily performed also to a large area portion, it can respond to a thing of any desired designs, and a high thing of a visual attractive point can be produced. And compared with a way some differences use label material of at least the above-mentioned former or foil material for an imprint of a certain thing by concrete printing method or coating method in this 1st invention, mass-production nature also has highly high process tolerance.

[0013] In addition, as a base material, if a thing which made an adhesives layer or a binder layer form in a rear-face side of sheets, such as paper or a plastic, beforehand is used, a product obtained can also be used as foil material for an imprint as label material, for example.

[0014] Moreover, this invention makes an adhesives layer form in a rear face while making transparence or a translucent hologram layer form on a support film. By performing printing or coating to the surface of the above-mentioned hologram layer partially, after making the above-mentioned support film paste together on a base material A manufacture method of a partial hologram characterized by making it vanish irregularity of the surface of a hologram layer partially in a printing layer or a coating layer (it is hereafter called the 2nd invention.) It proposes.

[0015] Especially a support film and adhesives (layer) that are used for the 2nd invention of the above cannot limit the quality of the material and the shape of its alterity, and any well-known things can be used for them. Moreover, what is necessary is just to carry out according to a method explained in said 1st invention about the other technique.

[0016] What is necessary is to use this 2nd invention for a mode which cannot apply said 1st invention, in addition to select it suitably in view of practical conditions etc., and just to apply it, when a hologram layer cannot be geometrically formed, for example on a base material.

[0017] Furthermore, this invention also proposes a manufacture method (henceforth the 3rd invention) of a partial hologram characterized by making it vanish irregularity of a rear face of a hologram layer partially in an adhesives layer by making transparence or a translucent hologram layer form in a rear face of a support film, making an adhesives layer form on a base material which has a hollow part, and making the above-mentioned support film paste together on this base material.

[0018] The 3rd invention of the above forms a hollow part of a request configuration in a base material beforehand, and forms an adhesives layer by proper method on this base material. Next, a support film which made transparence or a translucent hologram layer form in a rear face is pasted together on the surface of the above-mentioned adhesives layer, and a partial hologram is produced on it. Although a pasting method of the above-mentioned support film can use a well-known heat-sealing method etc. and it does not limit especially, since irregularity of transparence in which an adhesives layer on a base material carries out thermofusion (softening) and by which it was formed in a rear face of a support film, or a translucent hologram layer is vanished, it becomes a part in which the adhesives layer is not prepared, i.e., a partial hologram whose hologram image is visible only to a hollow part of a base material.

[0019] Moreover, this invention makes transparence or a translucent hologram layer form on a support film. By performing printing or coating to the surface of the above-mentioned hologram layer partially, after making an adhesives layer form on a base material which has a hollow part and making the above-mentioned support film paste together on this base material A manufacture method of a partial hologram characterized by making it vanish irregularity of the surface of a hologram layer partially in a printing layer or a coating layer (it is hereafter called the 4th invention.) It proposes.

[0020] The 4th invention of the above forms a hollow part of a request configuration in a base material beforehand like said 3rd invention, and forms an adhesives layer by proper method on this base material. Next, a support film which made transparence or a translucent hologram layer form in the surface of the above-mentioned adhesives layer on the surface is pasted together. Furthermore, printing or coating is partially performed to transparence of the above-mentioned support film, or the surface of a translucent hologram layer, and a partial hologram is produced. That is, in this 4th invention, since a printing layer or a coating layer partially given to the surface of a hologram layer like said 1st invention and 2nd invention vanishes irregularity of that portion, it becomes the partial hologram whose hologram image is visible only to a part in which that printing layer or a coating layer is not prepared.

[0021] Furthermore, a manufacture method (henceforth the 5th invention) of a partial hologram which forms a metal vacuum evaporatio layer of a field in which irregularity of a hologram layer is formed in each of said 1-4th invention translucent [to a side] on the other hand or opaque is also proposed.

[0022] What carried out metal vacuum evaporatio is used for this method so that it may become translucent or opaque at an one side [of a base material in said 1-4th invention], or one side side of a support film, and it should just produce a partial hologram by the above-mentioned technique. Thus, since the metal vacuum evaporatio layer will be located up from a hologram layer when reflexivity may be given and it prepares a metal vacuum evaporatio layer in said 3rd invention by

forming a metal vacuum evaporatio layer, you may make it conceal a hologram image of the part by preparing a metal vacuum evaporatio layer translucent, or preparing a metal vacuum evaporatio layer in a predetermined part partially. [0023] Thus, the 1-5th invention of this invention introduces a hologram easily into a pattern by various printings or coating, and a pattern, according to a configuration and a design of a base material in which it is made to form, selects the mode suitably and should just carry it out.

[0024]

[Example] This invention is explained at details based on the example of a drawing below.

[0025] Example 1 (the 1st invention)

After making transparence or the translucent hologram layer 2 form on a base material 1 as shown in drawing 1, the printing layer or the coating layer 3 was partially formed in the surface of this hologram layer 2.

[0026] In addition, in the illustration example, the wavelike side showed the irregularity of a hologram layer, indicated the portion whose hologram can be seen to be A, and indicated the portion which is not visible to be B (the same is said of the following examples).

[0027] Example 2 (the 2nd invention)

While making transparence or the translucent hologram layer 2 form on the support film 4, after making the adhesives layer 5 form in a rear face and making the above-mentioned support film 4 (2+4+5) paste together on a base material 1 as shown in drawing 2, the printing layer or the coating layer 3 was made to form in the surface of the above-mentioned hologram layer 2 partially.

[0028] Example 3 (the 3rd invention)

Made transparence or the translucent hologram layer 2 form in the rear face of the support film 4, the adhesives layer 5 was made to form on the base material 1 which has a hollow part a, and the above-mentioned support film (4+2) was made to paste together on this base material 1 (5+1), as shown in drawing 3.

[0029] Example 4 (the 4th invention)

After having made transparence or the translucent hologram layer 2 form on the support film 4, making the adhesives layer 5 form on the base material 1 which has a hollow part a and making the above-mentioned support film (2+4) paste together on this base material 1 (5+1) as shown in drawing 4, the printing layer or the coating layer 3 was made to form in the surface of the above-mentioned hologram layer 2 partially.

[0030] Examples 5-8 (the 5th invention)

As shown in drawing 5 -8, the thing in which the metal vacuum evaporatio layer 6 of the field in which the irregularity of the hologram layer 2 of said examples 1-4 is formed translucent [to a side] on the other hand or opaque was made to form was made into examples 5-8, respectively. In addition, the portion of A and B which were illustrated in the example 7 when it prepared partially although the metal vacuum evaporatio layer 6 is formed that it is translucent or partially is not exact.

[0031] Although the example of this invention was shown above, this invention is not limited to the above mentioned example. although the metal vacuum evaporatio layer was prepared in said examples 5-8 so that a hologram layer might be touched -- this metal vacuum evaporatio layer -- in the examples 6 and 8, it may prepare in the rear-face side of a support film, and you may make it prepare in the rear-face side of a base material by the example 7 in the example 5 at the surface side of a support film Thus, unless the configuration indicated to the claim is changed, it can carry out even to how.

[0032]

[Effect of the Invention] As explained above, since this invention is vanished by making the irregularity of a hologram layer paste together with printing, coating, or an adhesives layer, it can produce a partial hologram whose hologram image is visible only to the part in which the printing layer, a coating layer, or an adhesives layer is not prepared.

[0033] moreover, the concrete printing method or the coating method -- the shape of a plan type detailed [some differences / of a certain thing], and complicated -- or the processing can be easily performed also to a large area portion, and highly, since mass-production nature is also high, it can respond to the thing of any desired designs, and is stable quality, and moreover, process tolerance can produce the high thing of a visual attractive point.

[0034] Therefore, the manufacture method of the partial hologram of this invention can introduce arbitrarily and easily the hologram image which presents a three-dimensional fine sight into the design obtained by the usual printing or coating, or a pattern.

[Translation done.]